

Date: Friday, 12/9/2005 12:06:44 PM  
 User: Kim Johnston

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : WEARPAD
<b>Job Number</b> : 25195	
<b>Estimate Number</b> : 11356	
<b>P.O. Number</b> : N/A	<b>Part Number</b> : D334017
<b>This Issue</b> : 12/9/2005 <b>S.O. No.</b> : N/A	<b>Drawing Number</b> : D3340 REV B
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : 12/9/2005 <b>Type</b> : PURCHASED PARTS	<b>Drawing Revision</b> : B
<b>Previous Run</b> : N/A	<b>Material</b> : N/A
<b>Written By</b> : See comment below	<b>Due Date</b> : 12/30/2005
<b>Checked &amp; Approved By</b> : See comment below	<b>Qty:</b> 10 <b>Um:</b> Each
<b>Comment</b> : Est: A 05.11.10 Preliminary issue AP/EC	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0

PG

PURCHASING

**Comment:** PURCHASING

Issue P/O: 00000267

Email of ship DXF file to vendor

Laser Cut per Dwg D3340 flat pattern D3340-17

Material release note required

2.0

D334017F

Wearplate



**Comment:** Qty.: 1.0000 U(s)/Unit Total : 10.0000 U(s)  
 Wearshoe

3.0

PACKAGING 1

PACKAGING RESOURCE #1

**Comment:** PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material release note is attached

DL 05/12/30

10

4.0

QC6

DIMENSIONAL CHECK

**Comment:** DIMENSIONAL CHECK

Inspect dimensions

5.0

BRAKE NC

NC BRAKE

**Comment:** NC BRAKE


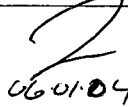
Deburr if necessary

Form on brake as per Dwg D3340 using Jigs DT

and DT

SB 06/01/04 9

PO

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
06-01-04	4	Took 1 for template. Identify AS DT8829		06-01-04	1	W	 06-01-04

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☐ No ☒ DQA: ☒ Date: 06/11/04  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 12/9/2005 12:06:44 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPAD

Job Number: 25195

Part Number: D334017

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*Johnston*

7.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

*FC 06 01 12 9*

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*06/11/13 (9) CR*

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: *72*

*06/01/13 (9)*

10.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

*06/01/13 (9)*

Job Completion



*06-01-13 9*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

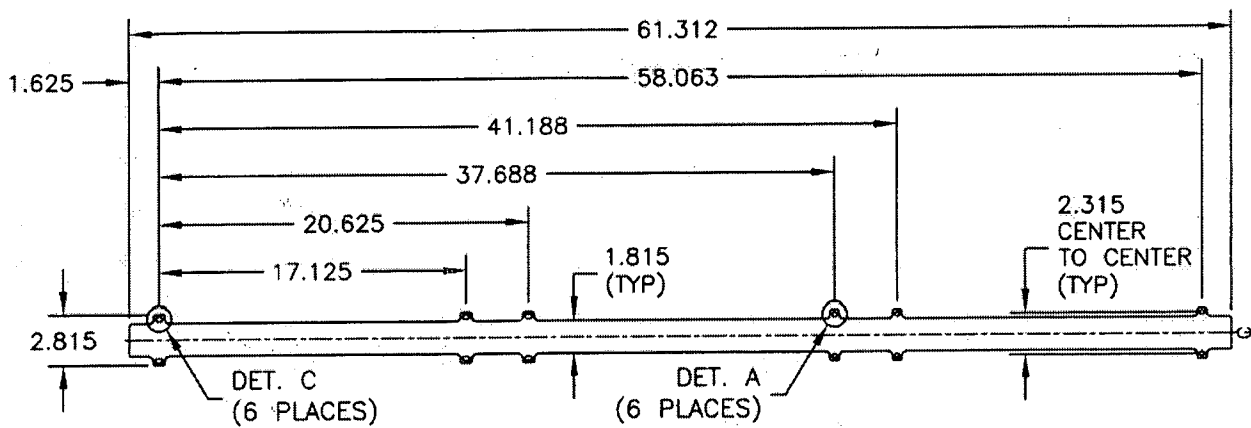
QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



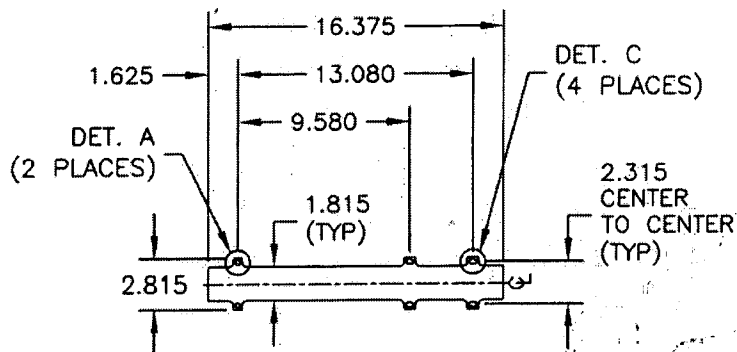
DESIGN MB	DRAWN BY MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D3340	REV. B SHEET 7 OF 11
DATE 05.11.22	TITLE SKIDTUBE PROTECTOR		SCALE 1:10



**D3340-15F FLAT PATTERN**

**RELEASED**  
05.11.28

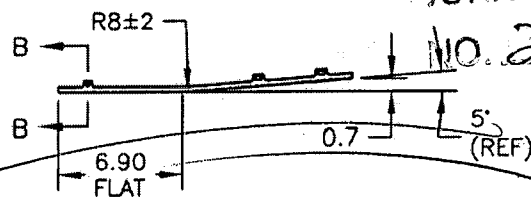
**D3340-15 CENTER SKIDTUBE PROTECTOR**



**D3340-17F FLAT PATTERN**

**NOTES:**

- 1) MATERIAL: AISI 1010-1025 OR  
ASTM A36/A366/A1008 OR  
CSA G40-21, 38W/44W/50W/60W/70W  
SERIES COLD ROLLED STEEL 19 GAUGE  
(0.040 THICK)
- 2) PART IS SYMETRICAL ABOUT CENTER LINE
- 3) FINISH: POWDER COAT GREY SANDTEX  
(REF: 4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018  
UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP CORNERS 0.063 MAX



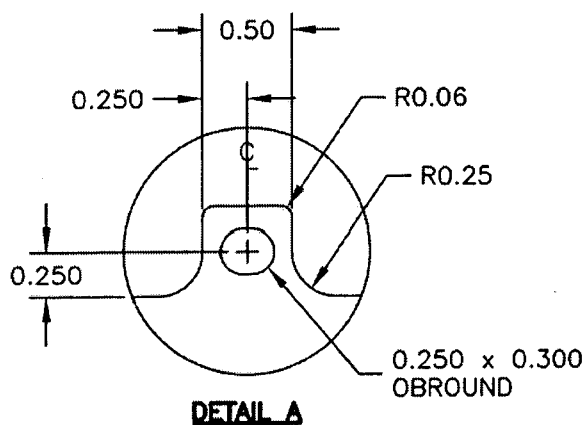
**D3340-17 AFT SKIDTUBE PROTECTOR**

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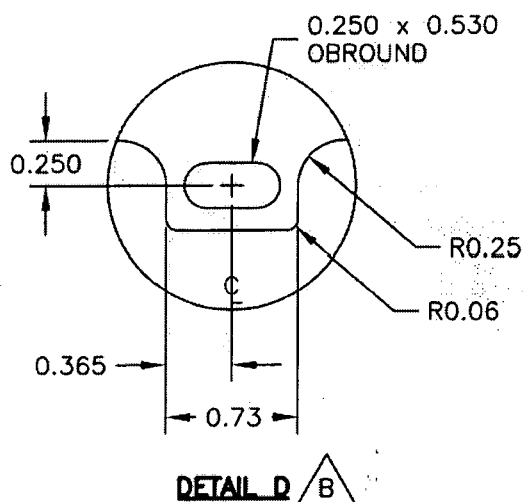
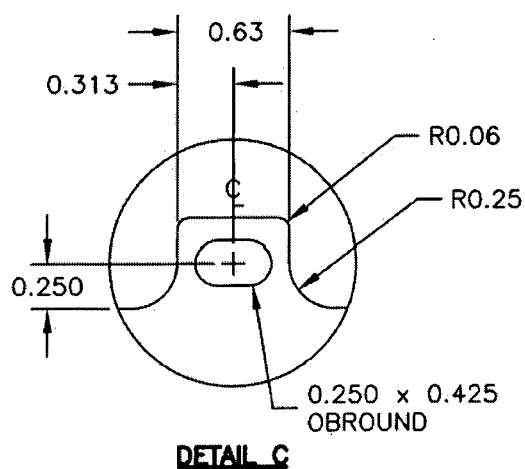
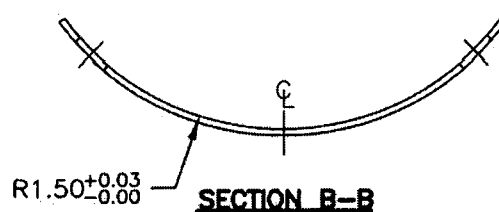
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DESIGN MB	DRAWN BY MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3340	REV. B SHEET 11 OF 11
DATE 05.11.22		TITLE SKIDTUBE PROTECTOR	SCALE 1:1



RELEASED  
05.11.28



WORK ORDER  
NO. 25195

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0010

--- MTR MINNEAPOLIS

INTEGRIS METALS

01/18/05 TUE 15:50 FAX 604 272 0981

# 90229754 INSPECTION CERTIFICATEMATERIAL TEST/INSPECTION CERTIFICATES

**YEN MAU CORP.**  
 茂茂實業股份有限公司

INVOICE NO.:  
 COMMODITY:

FORMAAS  
 PRIME COLD ROLLED STAINLESS STEEL SHEET AISI 304 NO.4 (SIC)  
 FINISH WITH 100 MIC FILM ON MAIN SIDE, WITH BACK-PASS,  
 SLITTED EDGE AISI 304, 2B FINISH, WITH PAPER INTERLEAVED,  
 SLITTED EDGE.  
 AISI 304

SPECIFICATION:  
 CUSTOMER:

INTEGRIS METALS LTD

工廠: 嘉華基地竹園路安路345號  
 345, SHUN AN RD. LI CHU HSANG  
 KAOHSIUNG TAIWAN R.O.C.  
 TEL: (87) 8972885 FAX: (87) 8973008  
 CERTIFICATE NO: 9011192  
 DATE OF ISSUE: 1/18/2004

SPECIFICATION :		CUSTOMER :		AISI 304 INTEGRIS METALS LTD		Physical Properties Tensile Test GL-50 m/m					Chemical Composition (%)							
(ITEM NO) SIZE	NO.	Weight (N.W.)		Heat No.	ID NO.	Y.S. (N/mm <sup>2</sup> )	T.S. (N/mm <sup>2</sup> )	E.L. (%)	HRB	HV	C x100	S x100	Mn x100	P x1000	S x1000	Ni x100	Cr x100	N x100
		KGS	LBS															
AISI 304 2B (7425-4228)																		
24GA/48"X120"	1	1,465	3,230	YU231320	3AS44453B-21	258	685	56	81	156	4.8	51	119	24	2	804	1821	2.7
24GA/48"X120"	1	1,464	3,228	YU231320	3AS44453B-22	258	685	56	81	156	4.8	51	119	24	2	804	1821	2.7
(7425-5860) 22GA/48"X36"	1	1,464	3,228	YU230510	38S37609B-51	280	673	53	82	162	5.4	50	126	26	3	815	1819	2.4
(7425-5850) 22GA/48"X120"	1	1,375	3,031	YU230510	38S37609B-52	280	673	53	82	162	5.4	50	126	26	3	815	1819	2.4
(7425-5850) 18GA/48"X36"	1	1,445	3,186	YU134975	3AS13434A-1	312	666	61	82	161	4.1	49	112	24	2	809	1821	2.8
(7425-2619) 18GA/48"X36"	1	1,497	3,300	YU231066	3AS42732-4	301	664	49	84	166	3.7	40	118	27	5	810	1824	3.7
(7425-2619) 18GA/48"X120"	1	1,453	3,203	YU231066	3AS42732-5	301	664	49	84	166	3.7	40	118	27	5	810	1824	3.7
18GA/48"X120"	1	1,455	3,208	YU231066	3AS42732-6	301	664	49	84	166	3.7	40	118	27	5	810	1824	3.7
(7425-5166) 16GA/48"X120"	1	1,423	3,137	YU231143	3AS42866A-6	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7
16GA/48"X120"	1	1,424	3,139	YU231143	3AS42866A-7	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7
16GA/48"X120"	1	1,420	3,131	YU231143	3AS42866B-1	302	650	53	82	159	4.5	52	123	28	4	810	1822	2.7
(7425-7049) 16GA/48"X36"	1	1,441	3,177	YU231075	3AS42917A-1	302	650	52	83	162	4.2	48	118	26	6	806	1813	3.4
16GA/48"X36"	1	1,441	3,177	YU231075	3AS42917A-2	302	650	52	83	162	4.2	48	118	26	6	806	1813	3.4
(7425-8053) 14GA/48"X120"	1	1,420	3,131	YU231075	3AS42917A-3	302	650	52	83	162	4.2	48	118	26	6	806	1813	3.4
14GA/48"X120"	1	1,420	3,131	YU231075	3AS42917A-4	302	650	52	83	162	4.2	48	118	26	6	806	1813	3.4
(7425-8244) 14GA/60"X36"	1	1,446	3,188	YU135202	3AS45623A-211	301	641	53	81	157	5.1	51	114	30	9	806	1822	3
(7425-8277) 14GA/60"X120"	1	1,405	3,097	YU135202	3AS45623A-213	301	641	53	81	157	5.1	51	114	30	9	806	1822	3
14GA/60"X120"	1	1,540	3,395	YU135202	3AS45623A-214	301	641	53	81	157	5.1	51	114	30	9	806	1822	3
14GA/60"X120"	19	25,998	57,317															

Remarks: NO MERCURY CONTAMINATION  
 WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS  
 BEEN MADE IN ACCORDANCE WITH THE RULES OF THE MILL CERTIFICATE.

Product in accordance with ASTM A240, A480,  
 A362R, ASME SA340, Q35765D.

YIEN MAU CORP.

*Lin Kuan Hui*  
 Manager of Quality Assurance

2094 304 0455

(0.037)

po #126, (267) 196



New Zealand Steel Limited  
Glenbrook, South Auckland  
Postal: Private Bag 92121, Auckland, New Zealand  
Telephones: (09) 375 8999 / 375 8111 Auckland  
(09) 235 8089 / 235 3535 Wairakei  
Fax: (09) 375 8959

# TEST CERTIFICATE

Ref: 5379/23650

CUSTOMER	Wilkinson	P50505DI002	SPECIFICATION	ASTMA1008 CS Type A	CERTIFICATE No	TC116858																		
CUSTOMER O/N	90-21N-742		PRODUCT	CRA WIDE COIL	PAGE	1 of 1																		
MILL O/N	486968		DIMENSIONS	0.033" x 48" x Coil	DATE	19 August 2005																		
PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT										MECHANICAL TESTS (TEST SPECIFICATION - ASTMA370)												
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ( )	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH
		x100					x1000									x10000	x100	180°			G.L.=	HRB	( )	(feet)
R9-466080-00	845423	6	TR	21	11	16	17	20	16	2	3	1	3					Good				50		2700
R9-466081-00	845423	6	TR	21	11	16	17	20	16	2	3	1	3					Good				50		2700
R9-466082-00	845253	6	1	21	10	12	28	30	15	2	3	1	3					Good				47		2651
R9-466083-00	845253	6	1	21	10	12	28	30	15	2	3	1	3					Good				47		2651

YIELD	GAUGE LENGTH (G.L.)	PLASTIC STRAIN RATIO (r)	IMPACT TEST	(C)=5mm x 5mm	CARBON EQUIVALENT VALUE (CE)
(A)=0.2% PROOF STRESS	(A)=200mm (C)=80mm (E)=2"	(A)=r0 (C)=r45	(A)=10mm x 10mm	(D)=2.5mm x 10mm	(A)=C+Mn/6
(B)=LOWER YIELD STRESS	(B)=50mm (D)=5.65? So (F)=8"	(B)=r90 (D)=(r0+r90+2r45)/4	(B)=7.5mm x 10mm	(E)=5mm x 10mm	(B)=C+Mn/8+(Cr+V+Mo)/5+(Cu+Ni)/15
					(C)=C+Mn/6+Si/24
					(D)=

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED *Satish Misra*  
QC METALLURGIST

20 ga ~s

PO# 267, 146,



13



New Zealand Steel Limited  
Glenbrook, South Auckland  
Postal: Private Bag 92121, Auckland, New Zealand  
Telephones: (09) 375 8998 / 375 8111 Auckland  
(09) 235 8089 / 235 3596 Waiuku  
Fax: (09) 375 8959

# TEST CERTIFICATE

Ref: 5210/22495

CUSTOMER	Wilkinson	P50323 DI001	SPECIFICATION	ASTMA1008 CS Type A	CERTIFICATE No	TC112397
CUSTOMER O/N	90-21N-686		PRODUCT	CRA WIDE COIL	PAGE	1 of 1
MILL O/N	480737		DIMENSIONS	0.055" x 48" x Coil	DATE	09 June 2005

PACK NUMBER	HEAT No	CHEMICAL COMPOSITION PERCENT															MECHANICAL TESTS (TEST SPECIFICATION - ASTM A370)							
		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	B	N2	CE ( )	BEND	YIELD	T.S.	%ELONG	HARDNESS	r	LENGTH
		x100			x1000												x10000		x100	180°			G.L.=	HRB
R9-459713-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1585
R9-459714-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				54		1457
R9-459715-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1375
R9-459716-00	641513	5	TR	18	9	18	12	17	15	1	6	1	1					Good				48		1473
R9-459717-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1631
R9-459718-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				48		1093
R9-459719-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1562
R9-459720-00	641756	5	TR	20	12	19	12	18	19	1	7	1	1					Good				50		1535
R9-460380-00	641761	4	TR	20	13	17	12	18	25	5	8	1	1					Good				50		1581
R9-460381-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1562
R9-460382-00	641758	4	TR	18	4	16	13	19	10	5	3	1	1					Good				49		1503
R9-461458-00	642309	2	TR	18	10	20	11	17	19	1	6	1	1					Good				48		1785

PA: 227181  
IN: 55031MD009

YIELD	GAUGE LENGTH (G.L.)			PLASTIC STRAIN RATIO (r)			IMPACT TEST		CARBON EQUIVALENT VALUE (CE)	
(A)=0.2% PROOF STRESS	(A)=200mm	(C)=80mm	(E)=2"	(A)=0	(C)=45		(A)=5mm x 5mm		(A)=C+Mn/8	(C)=C+Mn/8+Si/24
(B)=LOWER YIELD STRESS	(B)=50mm	(D)=5.65? So	(F)=8"	(B)=90	(D)=(r0+r90+2r45)/4		(A)=10mm x 10mm	(D)=2.5mm x 10mm	(B)=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15	(D)=
							(B)=7.5mm x 10mm	(E)=5mm x 10mm		

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED  
WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED *Satish Misra*  
QC METALLURGIST

16 ga ms

POA 146, 267, 245,

P50323DI001: 641756